CLAIMS

1. An optical pickup compliant with a three-beam method, a phase difference method, a push-pull method and a three-beam push-pull method, comprising:

an emission light source for emitting two or more light components of different wavelengths;

a diffraction element for diffracting the emitted light components;

a light collector for collecting the light components output from the diffraction element;

a hologram element for diffracting the light components collected by the light collector and then reflected by an information recording medium;

a plurality of photodetectors for receiving the diffracted light components output from the hologram element; and

operation means for performing an operation on outputs of the plurality of photodetectors,

wherein the plurality of photodetectors are at least eight photodetectors which are necessary for the execution of the three-beam method, the phase difference method, and the push-pull method, and

the operation means includes a switch for switching between a terminal for obtaining a sub signal of the three-beam push-pull method and a terminal for obtaining a tracking signal of the three-beam method.

2. An optical pickup compliant with a three-beam method, a phase difference method, a push-pull method and a three-beam push-pull method, comprising:

an emission light source for emitting two or more light components of different wavelengths;

a diffraction element for diffracting the emitted light components;

a light collector for collecting the light components output from the diffraction element;

a hologram element for diffracting the light components collected by the light collector and then reflected by an information recording medium; and

a plurality of photodetectors for receiving the diffracted light components output from the hologram element,

wherein the plurality of photodetectors are at least eight photodetectors which are necessary for the execution of the three-beam method, the phase difference method, and the push-pull method,

the optical pickup includes a switch that switches between a first terminal for obtaining a predetermined signal of the three-beam push-pull method and a second terminal for obtaining a predetermined signal of any of the three-beam method, the phase difference method and the push-pull method,

the emission light source includes

a first emission light source for emitting light of a first wavelength, and

a second emission light source for emitting light of a second wavelength which is different from the first wavelength, the second emission light source being placed away from the first emission light source,

the hologram element includes at least two diffraction grating regions, and

at least one of the plurality of photodetectors is placed at a position where diffracted light which is obtained by reflecting light emitted by the first emission light source by the information recording medium and diffracting the reflected light by the hologram element and diffracted light which is obtained by reflecting light emitted by the second emission light source by the information recording medium and diffracting the reflected light by the hologram element are commonly received.

3. The optical pickup according to claim 1 or 2, wherein:

a light receiving region which includes the at least eight photodetectors has a division line which extends in a direction generally parallel to a track direction of the information recording medium, and

the division line extends across the light receiving region from a front side to a back side of the track direction to divide photodetectors which are adjacent in a direction generally perpendicular to the track direction.

4. The optical pickup according to claim 2, wherein:

the first terminal is a terminal for obtaining a sub signal of the three-beam push-pull method; and

the second terminal is a terminal for obtaining a tracking signal of the three-beam method.

5. The optical pickup according to any one of claims 1-4, wherein the plurality of photodetectors are all placed away from the emission light source and placed at one side with respect to the position of the emission light source which serves as a reference.

6. The optical pickup according to any one of claims 1-4, wherein:

the plurality of photodetectors are placed away from the emission light source; and

some of the photodetectors are placed at one side with respect to the position of the emission light source which serves as a reference while the other photodetectors are placed at the other side with respect to the position of the emission light source.

7. The optical pickup according to any one of claims 1-6, wherein the first emission light source and the second emission light source are placed such that a line between these light sources extends generally perpendicular to a track direction of the recording information medium.

8. The optical pickup according to any one of claims 1-6, wherein the first emission light source and the second emission light source are placed such that a line between these light sources extends generally parallel to a track direction of the recording information medium.

9. An optical pickup compliant with a three-beam method, a phase difference method, a push-pull method and a three-beam push-pull method, comprising:

at least eight photodetectors which are necessary for the execution of the three-beam method, the phase difference method, and the push-pull method;

a wire for transmitting an output from each of the photodetectors; and

a switch that switches between a first terminal on the line for obtaining a predetermined signal of the three-beam push-pull method and a second terminal on the line for obtaining a predetermined signal of any of the three-beam method, the phase difference method and the push-pull method.